

PRINTER RUSH
(PTO ASSISTANCE)

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[RUSH] MESSAGE: please provide missing Serial No. —
on page 7 line # 18 of specification.

Thank you.

[XRUSH] RESPONSE: _____

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INITIALS: DP

an imide, acrylate, methacrylate, isocyanate, epoxide, vinylsilane, silsesquioxane, cycloalkene or ethacrylate for example. A suitable dielectric layer 115 can be formed, for example, by surface growth of zirconium biphenyl-4,4'-diphosphonate. See Katz, H.E. et al., Chemistry of Materials, vol. 5, pp. 1162-1166 (1993). Another suitable dielectric layer 115
5 can be formed, for example, by surface growth of polynorbornenes or polycyclopentadienes and derivatives by ring opening metathesis polymerization, using benzyldeneruthenium dichloride complexes, also known as "Grubbs catalysts". These reagents are commercially available from Sigma-Aldrich.

In one embodiment, the first dielectric precursor composition comprises a high
10 dielectric material for the purpose of increasing the overall dielectric constant of the dielectric layer 115 to be produced. In such an embodiment, the high dielectric material may take the form of particulate material suspended in other components, resulting in inhomogeneities in the dielectric layer 115. These inhomogeneities may include through holes, pits and bumps, which are then remediated as described below. Pits are indentations in the surface of the
15 dielectric layer 115; and bumps are protrusions on the surface. Suitable high dielectric materials include, for example, titanium dioxide, barium titanate, strontium titanate, and other mixed oxides comprising titanium, barium, strontium, lanthanum and/or zirconium. See, for example, U.S. Patent Application Serial No. 10700651 of Howard E. Katz and Ashok J. Maliakal, filed concurrently with this application, entitled "LAYER INCORPORATING
20 PARTICLES WITH A HIGH DIELECTRIC CONSTANT", the entirety of which hereby is incorporated herein by reference.

In another embodiment, the first dielectric precursor composition is selected to be relatively non-reactive with the semiconductor chosen for fabrication of the semiconductor